
Preface

The *Journal of Forth Application and Research* is pleased to present, as the first issue of Volume II, a special issue devoted to hardware implementations of Forth. The Guest Editor, Michael Starling, has worked with Forth for many years, first as a graduate student introducing Forth to Raymond Dessy's laboratory at Virginia Polytechnic Institute, and later at Union Carbide. We are grateful for his diverse experience in hardware and software.

With this issue we also welcome Lawrence Forsley, University of Rochester, as the Technical Notes Editor.

As Starling's introduction points out, there are numerous paths to the production of a working "Forth engine." This issue brings together several very different approaches to the problem. We are pleased to be able to present a study of the Rockwell R65F11, the first single-chip Forth implementation, by its designer, Randy Dumse, along with a description of its successor, the F68K. Two very different bit-slice implementations are described: the pair of machines developed to support the Johns Hopkins Ultraviolet Space Telescope, and Wright State University's RUFOR, a S-100 based implementation developed as a student project. Vaughan and Smith discuss the tradeoffs in selecting a design for a Forth machine suitable for TTL, ECL or VLSI, and Christopher Vickery, of Queens' College, reviews related work in computer science and specifies his design for a Forth machine. Michael McBride presents a technical note discussing some performance characteristics of a microcoded version of polyForth for the NCR/32. Finally, Lawrence Forsley gives a review of previous Forth work and its relationship to reduced instruction set computers.

The *Journal* is greatly indebted to Dr. Starling, the authors, and the many reviewers whose efforts over the past year made this issue of the *Journal* possible. The Institute for Applied Forth Research, Inc. would also like to thank its sponsors, whose support has enabled us to publish this work.

As always, the editors welcome readers' comments and contributions to the material presented in the *Journal*.

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